

used on the displays. An excellent starting point is NFPA 170, Standard for Fire Safety Symbols, and NFPA 72 annex, National Fire Alarm Code. A subset of these symbols should represent a starting point for the e-plan standard. There are several companies developing GIS based software that is being used for preplanning by fire and other public officials and the good ideas in their products should be incorporated in the standard.

Discussion of the display of information led to the following conclusions. The methods used to present this information must be kept simple and can include both audio and visual presentations. Audio can be very beneficial in communicating to a first responder who must watch the road, or to others in a vehicle who cannot see a visual display. Specific phrases used in audio messages should be standardized. The use of colors on displays needs to be explored as an aid in recognition of information. There was some discussion about presenting building information in 2D or 3D formats, with participants agreeing that need for 3D information was limited. The use of icons in some instances was also suggested but short text messages could also be effective. A set of symbols is useful for the video display and would include:

- Drop of blood for a medical hazard
- Skull and crossbones for hazardous materials
- Life safety for a person
- Fire symbol for a fire
- Gun symbol for shots fired
- Bomb symbol for a bomb.

Finally, available information enroute must be carefully selected as the incident commanders typically have very little time to look at it prior to arrival on the scene. There was general agreement that the types of information that should be sent to an incident commander would provide more safety and better informed command decisions. There was also concern that too much information would lead to information overload.

## **Appendix D – Summary of speaker presentations**

This section presents a summary of the morning presentations. The purpose of the presentations was to have experts provide their perspectives on the potential impact of having accurate and reliable information from building systems for tactical decision aids. Speaker biographies are presented in Appendix E. The presenters were as follows:

Kathleen Higgins: Director, NIST Office of Law Enforcement Standards

Ronny Coleman: Fire Chief, Santa Rosa, CA, Fire Department and former CA State Fire Marshall

Joel Leson: Special Assistant to the Executive Director & Chief of Staff /Staff Liaison to the Homeland Security Committee, International Association of Chiefs of Police

Don Hewitt: Program Manager, Responder Knowledge Base, Terrorism Research Center, Inc.

*Ms. Kathleen Higgins: "Perspective of the NIST Office of Law Enforcement"*

The NIST Office of Law Enforcement Standards (OLES) came about with the recognition in the 1960s of the need for equipment standards and information sharing. The National Institute of Justice came to NIST and cooperatively set up OLES, which has since addressed many issues of interest to the law enforcement community.

After 9/11 there was a significant expansion and refocusing on homeland security issues. This was true not only at OLES but also in every local jurisdiction. And while interoperability issues have been known and potential technology to address the needs available, post 9/11 has seen new determination at the federal and state levels as well as at the local levels to make interoperability a reality. Post 9/11 has seen the concentrated efforts of the federal government as demonstrated by the establishment of Department of Homeland Security (DHS) and steady evolution of programs within DHS to address needs of the emergency response community.

The DHS mission focuses on (1) preventing terror attacks and (2) responding to terror attacks. Part of response is having necessary equipment, and a second part is having information. The focus of the current workshop is getting building information out to the emergency responder. The goals are collaboration and sharing about the future of emergency response. This work goes beyond the traditional law enforcement focus of OLES and beyond the terror focus of DHS, because it is useful for any building emergency in the everyday work of emergency responders.

*Chief Ronny Coleman: "Future Information Needs for the Fire Service"*

Chief Coleman began his talk by describing the contributions of two men in order to provide a historical basis for his talk.

- Sir Eyre Massey Shaw, London Fire Brigade, who authored "A Complete Manual of the Organization, Machinery, Discipline, and General Working of the Fire Brigade of London" in 1876. A quote from this manual, "If you wish to control a problem, you must know more about the problem than anyone else and if you need to know more about the problem, you must coin a terminology, a lexicon, that allows you to understand it and not use imperial rhetoric." So, don't just be random about your collection of information, have a systems approach to it. In 1876, the London Fire Brigade was already developing fire pre-plans for buildings.
- Lloyd Layman authored "Fire Fighting Tactics" in 1953 (first published in 1940 under the title: "Fundamentals of Fire Fighting Tactics") and developed the concept of "size-up." Size-up encompasses facts, probabilities, possibilities, plan of action, etc. for an incident. "If you are going to rush into an emergency, you better have your information together."

"Today (2004) I would characterize the Fire Service as having one foot firmly planted in the 1870's and the other foot firmly planted in the 1950's and grasping to catch up with technology."

The first issue the Chief discussed was Risk Assessment. It is a limitation and potential liability for fire departments that very few communities know about Risk Assessment, and there is a great need to have better knowledge of Risk Assessment. He is working to develop RAVE, Risk Hazard and Value Evaluation, which is a computer-based methodology for risk assessment of buildings. It addresses the questions of:

- What is in the building?
- What can hurt you in the building?
- What do you need to know about the building?

Without a model to understand how everything fits together, there is a gap between the fire community and the technology community. The Chief gave his perspective in the following chart which provides an overview of how fire departments across the country are using data and technology and how the use of technology evolves.